

## CLAIMS

1                   1. A method of adjusting a treatment machine in which a  
2                   transporting chain for transporting objects to be treated is guided in loops  
3                   through at least one treatment station in a machine housing and driven at  
4                   least at two locations by drives which in a normal operation are synchronized  
5                   and adjusted relative to one another so that the transporting chain in its  
6                   guides is neither tightly pulled nor compressed, the method comprising the  
7                   steps of:

- 8                   a.     Selecting two drives which follow one another in a forward  
9                   direction of the transporting chain;  
10                  b.     asynchronously driving the selected drives, so that a chain  
11                   portion located therebetween is tightly pulled or compressed by  
12                   producing a length difference, and measuring a parameter  
13                   which is dependent from a drive moment of one or both  
14                   selected drives;  
15                  c.     when the parameter reaches or exceeds a fixed value,  
16                   -     operating the drives asynchronously for reducing the  
17                   previously produced length difference by a predetermined  
18                   amount;

- 1                   d.     Subsequently maintaining the adjusted relative position of the  
2                   both drives relative to one another, with asynchronous  
3                   operation of the drives; and  
4                   e.     using the preceding steps for further drives, until chain lengths  
5                   in all chain portions to be adjusted are adjusted.

1                   2. A method as defined in claim 1; and further comprising the  
2                   step of operating synchronously a drive arranged in a drive direction between  
3                   a chain portion to be adjusted and a compensating portion of the transporting  
4                   chain for receiving an excessive chain length, together with a selected drive  
5                   and/or all remaining drives together with the other selected drive.

1                   3. A method as defined in claim 1; and further comprising  
2                   providing a parameter which is independent from the drive moment, for each  
3                   chain portions to be adjusted.

1                   4. A method as defined in claim 1; and further comprising  
2 providing a special predetermined amount for a reduction of the previously  
3 produced length difference for each chain portion to be adjusted.

1                   5. A method as defined in claim 1; and further comprising, first  
2 pulling tight the chain portion adjusted in the steps b and c until reaching a  
3 first parameter, and then with registering the chain lengths which is required  
4 for it, compressing the chain portion until reaching a second parameter value  
5 or vice versa; and providing an amount of subsequent adjusting steps in  
6 dependence on the registered chain length.

1                   6. A method as defined in claim 1; and further comprising  
2 electrically controlling the drives; and performing the method automatically  
3 by a programmable microprocessor.

1                   7. A method as defined in claim 6; and further comprising  
2 providing the drives with rotary sensors for determination of their relative

1 angular positions; storing the angular positions; and performing the  
2 synchronization of an electrical path by controlling the drives.

1 8. A method as defined in claim 1; and further comprising  
2 providing the drives with electric motors; and measuring current consumption  
3 of the electric motors as parameters which are dependent from drive  
4 moments.

1 9. A method as defined in claim 1; and further comprising  
2 forming the drives as electrical drives; fixing a first electrical drive arranged  
3 in the forward direction of said transporting chain after a compensation  
4 portion and before a chain portion to be adjusted; operating a subsequently  
5 arranged second electrical drive synchronously with all subsequent electrical  
6 drives in the forward direction until its current consumption exceeds a  
7 predetermined value; then stopping the second drive together with all  
8 subsequent drives, turning them back by predetermined rotary angle  
9 opposite to the forward direction, and subsequently stopping; continuing the  
10 method with a third and subsequent drives correspondingly until a last chain  
11 portion arranged before the compensation portion is adjusted.

1                   10. A method as defined in claim 1; and further comprising  
2                   forming the drives as electrical drives; fixing a first electrical drive arranged  
3                   in the forward direction of said transporting chain after a compensation  
4                   portion and before a chain portion to be adjusted; operating a subsequently  
5                   arranged second electrical drive in the forward direction until its current  
6                   consumption exceeds a predetermined value, stopping the second drive  
7                   together with subsequent drives and turning the first drive by a  
8                   predetermined rotary angle in the forward direction, and subsequently fixing  
9                   it together with said second drive; continuing the method with a third and all  
10                  subsequent drives until a last chain portion arranged before the  
11                  compensation portion is adjusted; and operating the chain portions adjusted  
12                  previously and the drives arranged after synchronously or fixing them  
13                  together.

1                   11. A method as defined in claim 1; and further comprising  
2                   measuring chain length differences occurring during each adjustment; storing  
3                   the measured chain length differences; and evaluating their sum as an  
4                   indicator for a total chain length and/or chain wear.

1                    12. A method as defined in claim 11; and further comprising  
2                    measuring a length of a chain sagging in a compensation portion and  
3                    evaluating it as an indicator for a total chain length and/or chain wear.

1                    13. A method as defined in claim 1; and further comprising  
2                    using a programmable control for performing the adjustment.